

Amendments to the Specification:

On page 2, please replace paragraphs 1 and 2 with the following amended paragraph:

BA
Each distinct OS or image of an OS running within the platform ~~[[are]]~~is protected from ~~[[each]]~~other OS such that software errors on one logical partition can not affect the correct operation of any of the other partitions. This is provided by allocating a disjoint set of platform resources to be directly managed by each OS image and by providing mechanisms for ensuring that the various images cannot control any resources that have not been allocated to them. Furthermore, software errors in the control of an OS's allocated resources are prevented from affecting the resources of any other image. Thus, each image of the OS (or each different OS) directly controls a distinct set of allocable resources within the platform.

One problem with standard computer systems is that the input/output (I/O) sub-systems are designed with several I/O adapters (IOAs) sharing a single I/O bus. ~~An~~~~[[an]]~~ OS image contains device drivers that issue commands that directly control their IOA. One of these commands contains Direct Memory Access (DMA) addresses and lengths for the I/O operation being programmed. Errors in either the address or length parameters could send or fetch data to or from the memory allocated to another image. The results of such an error would be the corruption or theft of the data of another OS image within the data processing system. Such occurrence would be a violation of the requirements of a logically partitioned data processing system. Therefore, a method, system, and apparatus for preventing the I/O used by one OS image within the logically partitioned system from corrupting or fetching data belonging to another OS image within the system is desirable.

On page 18, please replace paragraph 1 with the following amended paragraph:

B2
When an owning one of OS images 402-408 requests to map some of its memory for a DMA operation, it makes a call to the hypervisor 410 including parameters indicating the IOA, the memory address range, and the associated I/O bus DMA address image to be mapped. The hypervisor 410 checks that the IOA and the memory address range are allocated to the owning one of OS images 402-408. The hypervisor 410 also checks that the I/O bus DMA range is within the range allocated to the IOA. If these checks are passed, the hypervisor 410 performs the requested TCE mapping. If these checks are not passed the[[he]] hypervisor rejects the request.